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AUTHOR Deen, Jeanine Y.
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ABSTRACT

This study compared communication and interaction patterns in a college class in Dutch as a second language. Subjects were 16 native-English-speaking students. Two lessons, one taught using cooperative learning (CL) and one using teacher-centered instruction (TC), were videotaped and analyzed. The CL lesson consisted of a group reading game. The TC lesson consisted of a review of comparison structures using guided conversation and a review of some earlier material. Transcripts were analyzed for quantity of talk (turn-taking, questions, Dutch T-units) and quality (lexical variety, complexity, error rate, correction). Results show subjects took many more turns in the CL than in the TC setting. Number of turns taken was much higher, out of proportion to the increased amount of speaking time in the CL lesson. The teacher took only 7 percent of turns in the CL setting, as contrasted with 50 percent in the TC lesson. Quantity and proportion of student questions also differed greatly. In addition, students produced 10 times as many T-units in the CL setting, using more Dutch, more English, and more mixed language. Dutch was used most of the time in the TC setting. Implications for classroom interaction are explored. Contains 43 references. (MSE)

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Comparing Interaction in a Cooperative Learning and Teacher-Centered Foreign Language Classroom

Jeanine Y. Deen
Tilburg University, 1991

Summary

Cooperative learning (CL) methods are group work methods that have recently received considerable attention in the U.S. as effective classroom methodologies for increasing academic achievement, especially for minority students. Kagan (1986) has hypothesized two elements of CL interaction that might support achievement:
(i) increase in opportunities students have to produce more diverse and complex output and
(ii) increase of the amount of comprehensible input students receive.
This study investigates these hypotheses for language learning by comparing the classroom interaction in a CL and in a teacher-centered (TC) lesson, recorded in a beginning university course in Dutch.
Findings showed that students as expected took more turns and produced a great deal more Dutch output in the CL setting, which supports their language acquisition. However, contrary to CL goals of providing equal opportunities for all, the stronger students--as usual--took more turns and used more Dutch than the weaker ones. Nonetheless, all students--independent of their proficiency level--asked many questions, modifying their input to a comprehensible level and making language acquisition possible. In terms of quality of output, students proportionally produced fewer ungrammatical Dutch utterances and

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fewer errors were corrected in the CL setting. In addition, vocabulary usage was more diverse as well as more repetitious. No significant difference between both settings was found in the complexity of students' Dutch.[1]

Theoretical Background

The Teacher-Centered Classroom

Advantages and disadvantages for language learning have been attributed to both teacher-centered and small group work classrooms. Traditionally, most foreign language classrooms have been teacher-centered. A teacher-centered (TC) classroom is defined by Wong-Fillmore (1985: 24) as a classroom where the teacher, rather than being a facilitator or advisor, has complete control. It is a class in which many activities are primarily organized as whole-class activities directed by the teacher.

This organization has certain advantages for language learning. First, the teacher--when using the foreign language--is a source of input and a model of correct and appropriate language. Second, he or she is the mediator of knowledge about the language and culture which he or she imparts on the students who are considered passive consumers rather than active interactants (Barnes, 1976). Third, the interaction is clearly structured since the teacher controls turn-taking and topic nomination.

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1. An abbreviated version of this paper was presented at the Second Language Research Forum at Hawaii, March 1988. I am very much indebted to Evelyn Hatch, Mary McGroarty and Robert Kirsner for their encouragement and invaluable suggestions.

Such a clear structure can be conducive to language learning (c.f. Van der Geest et al., 1984 & Deen, 1985).

Nevertheless, the central role of the teacher in the interaction may have a negative impact on oral language use, and the development of communicative competence (Krashen, 1982). In a TC classroom, the teacher generally talks about 60 to 90% of the time (Bellack, 1973), thereby leaving very little time for the students to actively use the language. As Long & Porter (1985: 208) calculated: In an English as a Foreign Language class of 30 students--subtracting time for reading and writing and administrative matters--speaking time per student is about 30 seconds in a 50 minute lesson. In addition, talking in the "public arena" in front of all the other students does not stimulate activities like asking questions, and admitting non-understanding, and explorative talk--activities that seem to foster learning (c.f. Barnes & Todd, 1977).

Another objection to the TC classroom is that the interaction is too controlled and artificial. The teacher often asks display questions to which he or she already knows the answers. There is no mutual transfer of information as in real communication. Students are only expected to display acquired knowledge in complete sentences[2]. This puts students under a considerable amount of stress without it being clear whether this leads to the development of communicative competence. Although knowledge about a language might support acquisition of reading and writing, for speaking and understanding, practice in interaction--rather than reproduction of knowledge--is essential (c.f Bygate, 1988). Bygate showed that in small group interaction, learners communicate through using many (syntactically) dependent units instead of complete sentences. These units are called 'satellite' units and are linked to the preceding or forthcoming utterances of another interaction partner. This gives learners a chance to deal with the demands

2. C.f. Brice Heath (1986), who stated that in Western middle class culture, display of knowledge is a common way to show learning.

of communication using a minimum of language. In addition, the interaction partner(s), by connecting their utterances to the learner's satellite units, can give valuable input to the learner, by means of expansion, substitution, reduction, etc. Bygate found that the surrounding spoken discourse can, among other things, help in accessing vocabulary from memory (p. 74). In a TC classroom, the interaction is less tailored to the individual student's level and needs.

There are other disadvantages of the teacher having a central role in the interaction. The amount of teacher talk in the foreign language can sometimes be as low as 10% of the total teacher talk (Duff & Polio, 1989). This severely limits the amount of oral L2 input students receive. In addition, sometimes teachers modify their language to a point that it becomes impoverished input, "predigested sentences, structurally and lexically controlled, repetitious in the extreme with little or no communication value" (Long, 1983: 221). Therefore, because of the restricted L2 output and input, the TC classroom might not be most conducive to the development of communicative competence. As many foreign language learners have experienced, even after years of taking classes in this format, a student may still not feel competent to communicate with native speakers.

Small Group Work

In searching for alternative classroom settings that would foster the development of communicative competence in a foreign language, small group work (SGW) has been suggested, among others by Long & Porter (1985) and Rivers (1981).

In SGW activities, students interact in groups of two to six students and the teacher has a peripheral role in the interaction as a counselor and coordinator. The interaction partners of the students are their non-native peers. Long & Porter gave several pedagogical and psycho-

linguistic arguments for SGW. Some of the advantages supported by research are:

1. SGW increases language practice and conversation opportunities,
2. it improves the quality of student talk,
3. and it promotes a positive affective climate, necessary for learning to take place.

Results of interlanguage studies done with native-nonnative speaker and nonnative-nonnative speaker SGW provide evidence for its merits, particularly in language learning (c.f. Pica & Doughty, 1985, Varonis & Gass, 1983 & 1985, Porter, 1983).

However, SGW procedures are not standardized and differ in many aspects and these differences may influence academic achievement. Some advocates claim it is important to use groups which are homogeneous in proficiency level, while others use heterogeneous groups. In addition, SGW may be highly structured, or leave all goal setting and organization to the students (e.g. project-based language learning, c.f. D. Fried-Booth, 1986). Some SGW techniques use tasks in which there is only a one-way exchange of information, while other techniques use two-way tasks.[3] Because many characteristics of SGW can influence achievement, it is hard to make a claim that a SGW environment is more effective for language learning than TC settings. More research is needed as to which characteristics of SGW specifically stimulate learning.

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3. In one-way tasks one student is only the receiver and the other only the supplier of information. Two-way tasks are tasks in which all the interlocutors possess a piece of information that the others do not have, information, that therefore has to be exchanged. Research has shown that the choice of task structure might influence the interaction--and thereby achievement--even more than the SGW setting per se (Pica & Doughty, 1986).

Basic Principles of Cooperative Learning

One group of SGW methods that have proven to consistently increase academic achievement are cooperative learning (CL) methods. Studies in elementary and secondary schools showed that in approximately 70% of the studies the experimental CL group did significantly better academically than the control groups (Slavin, 1983, Kagan, 1986, and Newmann & Thompson, 1987). CL methods seem to especially increase achievement of minority groups and they appear to improve interethnic and social relationships among students; as such they can help solve some major school problems in the U.S. and Europe (Kagan, 1986). Cooperative learning methods can differ considerably, but a characteristic of all of them is that students work together in teams that are heterogeneous with respect to achievement/proficiency level, ethnic background and gender. In addition, students in these teams are positively interdependent: each student needs the others to be able to fulfill a task or to get a good grade. For example, it might be the case that (i) each student has only part of the information needed to complete the task and/or (ii) that a student's personal grade depends on the whole team's achievement. Such 'reward' structures offer students a true incentive to cooperate.

The present study compares the interaction characteristics of a 'Jigsaw', CL classroom and a TC classroom. Differences in interaction may help explain higher achievement, and particularly language learning in CL settings.

The Research Questions

Only a few research studies address the effects of CL methods on foreign and second language learning specifically. These studies all show positive effects for the (CL) experimental groups. A large study assessing the effects of two cooperative learning methods and a teacher-centered method on the academic achievement in English as a Foreign Language (EFL) of 665 seventh-grade students was conducted by Bejarano (1987). Both cooperative methods showed significantly greater improvement from pre-test to post-test (listening and reading comprehension, and grammar and vocabulary) than the TC method. Sharan et al., (1984) compared test scores (listening comprehension, reading, cloze and asking questions) of 450 seventh-grade EFL students taught through either of two cooperative learning methods or a teacher-centered method. They also found significantly greater improvement from pre-test to post-test, for the CL group. The positive effects are attributed to certain characteristics of CL methods, such as the presence of a group reward structure and accountability of individuals towards the group (Slavin, 1983). Kagan (1986) hypothetizes that the group interaction also influences achievement positively but this has yet to be confirmed by research. I will discuss his three hypotheses concerning interaction which were formally tested in the present study.

1. The CL setting provides students with more opportunities to produce "comprehensible output" as defined by Swain (1985) in terms of being precise, coherent, appropriate and grammatical. That is, students have more chances to talk in a 'relatively creative and unpredictable' way (Canale & Swain, 1980: 33), and the communication is purposeful and goal-oriented.
2. Students receive more comprehensible input by negotiating meaning. In a heterogeneous TC classroom, the teacher cannot produce input on the appropriate level for each student. In small

groups, students might provide each other with more tailored input. They also might feel more comfortable to ask for clarification in order to break down the input to a comprehensible level.

3. Students' language might be more diverse and complex in terms of vocabulary and sentence structure.

Method

Data Collection

The subjects of the study were 16 students in Beginning Dutch, a foreign language class at a U.S. university. All students had English as their first language. Most of the students had some prior knowledge of Dutch either because of Dutch parentage or because they had spent time in Holland. The author, who is a native speaker of Dutch, assisted the regular professor of Dutch in this course, and regularly taught one of the four weekly periods. Two of these fifty minute lessons with the same group of students--a CL and a TC lesson--were audiotaped in the 9th week of class and then transcribed.

The Cooperative Learning Lesson

The cooperative learning activity that was used most closely resembles Jigsaw II, a technique in which group rewards and individual accountability are included (Kagan, 1985).[4]

For this Jigsaw activity, the students were divided into heterogeneous teams based on proficiency level and gender. Each team consisted of four or five members. The teacher stressed student responsibility for the learning of their team members, as their scores would be partly based on the other team members' achievement. The students were

4. This is unlike Original Jigsaw which did not consistently show positive effects in student achievement (Newmann & Thimpson, 1987 and Kagan, 1985).

encouraged to communicate in Dutch as much as they could. The teacher played the role of counselor, answering questions but interfering as little as possible with the group interaction.

The Jigsaw reading activity was part of a unit describing people. Every student was provided with only a portion of the reading material: i.e. one of 4 cartoon strips, each about a different member of a Dutch family "Jan, Jans en de kinderen" ("John, Joanna and the Children").[5] In other words, each student had one piece of a 'jigsaw' puzzle. Students from the different teams who received the same strip first studied it together in so-called 'expert' groups to ensure that everyone with that strip had a thorough understanding of its content and of some of the colloquial language it contained. Then the students went back to their own teams to describe the main character in their specific cartoon. In the teams, an information gap was thus created because no one student had all of the cartoons and for the description of the other family members, students were therefore dependent on the other team members. Thus, everyone had to communicate and make sure that everyone else communicated in order to receive the information on which all students would be tested the next day. In each group, the group interaction was recorded on (audio)tape.

The Teacher-Centered Lesson

The audiotaped TC lesson that followed the CL lesson consisted of two parts. The first part was a review of comparison structures by means of guided conversation as is usual in the Natural Approach (Krashen & Terrell, 1983, and Terrell et al., 1986). Grammar and vocabulary are systematically presented and practiced through conversation with the students. The second part of the lesson consisted of a review of the "Jan, Jans en de kinderen" cartoons in connection with the test the students took after the CL activity.

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5. These cartoon strips drawn by Jan Kruis are published weekly in the Dutch family magazine 'Libelle'.

Data Analysis

The transcripts were analyzed for several variables measuring quantity of talk such as number of turns, questions, and Dutch T-units, and measuring L2 quality, such as lexical variety, complexity, error rate, and correction. To test both groups of variables, two comparable samples of 36 minutes of the CL and the TC lesson were selected and analyzed.

Results and Discussion

Quantity of Input and Output

	Frequency of Turns & Questions		
	Students	Teacher	Total
Turns CL	2005	142	2147
	93%	7%	
Turns TC	220	201	421
	52%	48%	
Questions CL	469	34	503
	93%	7%	
Questions TC	34	217	251
	14%	86%	

Table 1.

The calculated percentages showed that students took many more turns in the CL setting than in the TC setting (see Table 1). This was expected because of the quadrupling of classroom speaking time when four interactions occur simultaneously rather than one dyadic teacher-student interaction. However, the number of turns was ten times higher rather than four times. The teacher was clearly peripheral in the CL setting. She only took 7% of the turns. In the TC setting, the teacher took about 50% of the turns.

The quantity of questions differed greatly in the two settings. In the CL setting, the students asked almost all the questions (see Table 1). Fourteen students asked more than 450 questions in the 36 minutes of class time used for this analysis. This total number is surprisingly high. However, in the TC setting it was the teacher who asked most of the questions.

In addition, the students produced ten times more T-units in the CL setting compared to the TC setting. As a result, they used much more Dutch (see Table 2). However, they also used more English and more mixed language. In the TC setting where relatively speaking students produced a very small number of T-units, they did use Dutch most of the time.

	Dutch/Engl. T-units			
	Coop. learn.		Teach.-cent.	
	Stud.	Teach.	Stud.	Teach.
Dutch	1127	196	176	583
	49%	9%	21%	71%
Mixed	160	37	7	7
	7%	0.1%	1%	1%
English	793	5	33	20
	35%	0.2%	4%	2%
Total	2080	238	216	610

Table 2.

Discussion

The results will be discussed from two perspectives: first, the language will be viewed from a student and teacher output perspective and then as input to the students.

Comprehensible Output

The enormous number of student turns in the CL setting is partly due to multiplication of classroom time. However, the students also seemed to be more actively involved and eager to participate. Such active involvement is important for learning because it not only increases the time spent on the task but also maintains students' focus on the task. Students talked a lot more in the CL setting than in the TC

setting; moreover, they used an impressive amount of Dutch. They had many more opportunities to imitate and create language, which is important for the acquisition.

The Jigsaw activity appears to be extremely effective for language learning. It gives students a chance to acquire forms first in the expert groups and then creates a necessary condition for practice in the teams through the reports the students have to give about what they learned in their expert group. For example, to report on one of the cartoons, the students needed to be able to use the ordinal numbers in the construction:

"She is twenty-second in the class."

In Dutch the correct construction is:

"Zij is de tweeëntwintigste van de klas."

Melvyn, one of the weaker students, had not yet acquired the ordinal number construction at the beginning of the discussion of the cartoon in his expert group. Jean, a stronger student, described the main character of the cartoon with the correct form:

Jean: Zij is de tweeëntwintigste van de klas.	
Melvyn: Ja, dat is x.	Yes, that is x.
Jean: Zij is stom.	She is dumb.
Martin: Ja.	Yes.
Melvyn: *De tweeëntwintig.	*The twenty-two.

While Melvyn probably understood the construction, he made an ungrammatical attempt to produce it by repeating part of Jean's statement.

Later, after having answered all the questions on the worksheet, Melvyn's group returned to the same form, when Martin wanted to know what 'the last' was in Dutch--which in this cartoon was equivalent to twenty-second in the class. Jean answered that she did not know. Melvyn then volunteered a solution and

Martin corrected him:

Melvyn: *Tweeëntwintig	*Twenty two
van de klas.	in the class.
Martin: Yeah, tweeëntwintigste.	Yeah, twenty-second.

Of course we do not know what is going on in Melvyn's head at this moment, but we can observe that he has now tried two alternatives for the structure, and the second attempt was already closer to the correct and complete form than the first. In addition, Martin helped him arrive at the correct form by modeling a part Melvyn had not yet acquired, (tweeëntwintigSTE). This kind of 'scaffolding' can stimulate acquisition (Hawkins, 1987). And indeed, when he reported to his team later on, Melvyn seemed to have incorporated the correction. He used the complete grammatical form:

Melvyn: Eh, zij is de	She is
tweeëntwintigste van,	twenty-second in,
van haar klas.	in her class.

That this was not a one time lucky shot could be seen from the data of the rest of his report. He later applied the construction correctly again with other ordinal numbers:

Melvyn: ..., de eerste van	..., the first of
de klas, van haar klas...	the class, of her
class...	
And then zij zeg	And then she say
dat de tweede van de	that the second of the
de klas is Marijke.	of the class is Marijke.
En then de derde van de klas	And then the third
is Cleem.....	of the class is Cleem...

Through learning the correct structure then and there, Melvyn was able to accomplish his task and fulfill his role in the group despite his

minimal oral competence. Apparently he was motivated not only to transmit his information to the group but also to do it in correct Dutch; that is, in 'comprehensible output' (Swain, 1985).[6]

The first language, English, seemed to have a clear function in the CL setting. Students used it predominantly in situations where the Dutch forms were not yet acquired, e.g. in the expert groups, in order to facilitate understanding and acquisition of these forms.[7] In addition, students seemed to use the first language out of frustration with the task, to avoid communication breakdown, and to provide off-topic comments.

In the teacher-centered setting, turn switching was less frequent than in the CL setting. One reason for more infrequent turn switching is that the teacher took longer turns, and students had fewer opportunities to interrupt. The teacher had a central role in the interaction, although the 50% percentage is still low for this kind of classroom interaction (Bellack, 1966). The use of the Natural Approach in part of the TC lesson might have led to such a relatively low turntaking percentage of the teacher because the teacher made a conscious effort to engage each student in the conversation.

Mainly Dutch was used in the TC setting because it was the pattern agreed upon in the class. When the students talked, they usually took short turns. This could be due to the anxiety raised by speaking in front of the whole group in a foreign language. Furthermore, the students had little incentive to talk if they were not called upon to do so because

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6. The word 'comprehensible' (as defined by Swain, 1985) can be somewhat misleading since students' output might very well be comprehensible in the sense of understandable. However, it might not fulfill the other requirements of grammatical correctness and appropriateness.

7. In a pilot study, I found that students used more English questions in the expert groups, in which they were working on mastering of the materials and language, while in the teams they used more Dutch questions (Deen, 1986) after having learned the necessary forms.

the goal of the interaction was not communication but practice of grammatical forms and explanation of problems in reading.

Negotiation of Meaning and Comprehensible Input

Another characteristic of interaction in the CL setting that may explain increases in academic achievement and language learning was that students received more comprehensible input because they had more opportunities to negotiate meaning. Students asked many more questions in the CL setting than in the TC setting. Question asking is very important for learning and understanding (Scarcella & Higa, 1981). Through questions students can influence the language and content of the lesson. It helps them to break down the input to their comprehension level and check their understanding.

It is not only the students who ask questions that profit from the interchange. Students who give explanations and answers benefit just as much. Giving extensive explanations to 'peers' appears to produce positive effects because it puts students in a teacher role (Webb, 1982: 428).

Pica & Doughty (1986: 32) reviewed research on the modification of interaction through negotiation. It appeared that the most modification occurred when:

1. all group members were non-native speakers
2. the group members had varying proficiency levels
3. the group members had a different first language.

Only the first two conditions were met in this study. Although it was a beginning Dutch class, the students differed considerably in proficiency level. This heterogeneity appears to have led to more negotiation. The stronger students could tutor the weaker ones. In addition, the two-way task structure seems to stimulate negotiation since all students had to provide as well as receive information. Doughty & Pica (1984, in Long & Porter, 1985) also found that two-way tasks create more negotiation

than one-way tasks because every student both gives and receives information.

In the teacher-centered setting in this study, the teacher asked most of the questions. Many of these were display questions (of known-information). Therefore, they did not often lead to genuine communication. Students asked very few questions. Again, this is probably due to the 'audience effect' (Long & Porter, 1985). In front of the whole class it is much harder for students to ask questions and thereby admit ignorance.

Opportunities for Interaction in the CL Setting

Since the students' share of interaction was much greater in the CL setting, it is interesting to find out whether participation was equal for the stronger and the weaker students, thus meeting the CL goal of creating equal opportunity for every student. A Spearman's rank-order correlation test was done in order to determine whether there was a relationship between proficiency level and the number of turns, questions and Dutch T-units the students used in the CL setting. For this analysis, fifty minutes of CL interaction was used.

There is a significant relationship between the number of turns students took and Dutch T-units they used, and their proficiency level (for turns, rho = .54, $p < .05$, and for Dutch, rho = .63, $p < .02$). This means that the stronger students took a greater number of turns and used more Dutch than the weaker ones. This finding agrees with that of Porter (1983) who reports that advanced learners tend to dominate conversations with intermediate learners. The CL setting did not, as was hoped, counteract this dominance completely.

There is no significant relationship between the number of questions students ask and their proficiency levels (rho = .51, p = n.s.). All students asked questions. Even the lowest level speakers still asked between 20 to 80 questions in 50 minutes of CL classroom time used for this analysis. This is without doubt much more than they would

ever ask in the same amount of TC classroom time. Independent of their proficiency levels, all students were trying to break down input to their comprehension level. Jigsaw thus appears to give students more equal opportunity to learn through negotiation of language and content by asking questions.

Quality of Students' Target Language Production

After discussing the quantitative differences in student participation in the interaction, we will now look at qualitative differences of their L2 use in both settings.

Complexity and Variety of Students' Dutch

Measuring the complexity of students' Dutch, a matched t-test showed no significant difference between the mean T-unit length in the two settings. The mean length was 4.97 in the CL setting and 4.26 words in the TC setting ($t = 1.648$, d.f. $= 1$, $p =$ n.s.).

Measuring the variety in vocabulary in students' Dutch, a type-token analysis showed that numerically students used many more different words in the CL setting. However, the frequency of these words was so much higher that the type-token ratio turned out to be lower (see Table 3).

	Lexical Variety Setting Coop. learn.	Teach. cent.
# of total words	4540	487
# of content words	2002	211
# of different words	567	171
# of diff. content words	480	119
Type-token ratio, total	0.125	0.351
Type-token ratio, content	0.240	0.564

Table 3.

Discussion

Complexity of Student Talk

Kagan has hypothesized that students' language might be more complex and diverse in a CL setting. This hypothesis was not unambiguously supported by the data. No difference was found in mean T-unit length. This might be because of a greater variety in T-unit length in the CL setting. The mean might be offset by the large number of one- and two-word utterances, observed in the transcripts. As mentioned before, Bygate (1988) found that what is typically used in group interaction are context dependent satellite units rather than complete sentences. The use of such elements in the CL setting might have a negative influence on the mean T-unit length. In contrast, in the TC setting the students were encouraged to use complete sentences when they answered the teacher's questions. This might have had a positive influence on the mean T-unit length there.

In addition, there might be a problem with the reliability of T-unit length as a measure of complexity in oral discourse. Originally, the

measure was only used for written discourse in which T-unit boundaries are clearly defined by writing conventions such as punctuation. However, these boundaries are much less clear for oral discourse.

Variety of Student Vocabulary

Students used greater lexical variety in the CL setting. Students, therefore, received varied input and seemed to have a chance to use a wider range of their L2 repertoire here than in the TC setting. In addition, students' vocabularies in the CL setting turned out to be more repetitious. Such repetitiousness in the L2 might be supportive of language learning at a beginning level. As students controlled the topic nomination, they themselves decided about how long they wanted to discuss a particular topic. Through repetition, students provided each other with a great deal of practice and opportunity to memorize vocabulary. In a TC setting, such repetitious talk would easily become very boring to many students.

High frequency of lexicon and repetitions in structure is characteristic both of foreigner talk (Long & Porter, 1985) and of adult talk to children learning a first language (c.f Snow & Ferguson, 1977). It is a way of modifying input to a comprehensible level and it creates opportunities for practice. The next example of repetition, without much communicative value, exemplifies such practice, resembling children's sing-song play with language as they acquire the mother tongue.

Bea:	Wacht even, hoor.	Wait a sec.
Mia:	Wacht even.	Wait a sec.
Martin:	Wacht even.	
Mia:	Wacht even, wacht even.	(Changing intonation)
Martin:	WACHT even.	(Stressing intonation)
Mia:	I don't wanna wait.	

Such repetition in interaction between non-native speakers has a function in acquisition and recall.

Repetition may also have other functions. According to Broeder (1987), repetition in the classroom as well as in every day conversation can highlight important information, it can function as a request for clarification, and it may prevent communication breakdown. Some of these functions seemed to be present in the CL setting. For example, in the next 5 lines the word 'aandacht' is repeated 7 times in a negotiation between a weaker and a stronger student.

Karen:	(reads) Ik besteed es wat extra aandacht aan mezelf.	(Literally) I pay once some extra attention to myself. (I'm gonna fix myself up a little.)
Ed:	Wat extra aandacht aan mezelf	(Repetition as acknowledgement that attention has been paid and to avoid breakdown.)
	(...) Ik doe elke uuh iets extra	I do every uuh something extra. (Attempts to translate.)
	Karen: Aandacht, extra aandacht. Ed: Aandacht, weet je wat aandacht is?	(Highlights the problem) Attention, do you know what attention is? (Focussing on the problem).

Consequently, repetition then--as well as diversity of lexicon--might have a positive influence on language acquisition in the CL setting.

Correctness of Student Dutch

The kind of errors studied were errors of form, such as improper lexical choices, word order, prepositions, articles, lack of agreement, and omission of non-referential subjects.

In the CL setting, students used proportionally more Dutch T-units that were grammatically correct than in the TC setting (see Table 4). This confirms other research that showed, perhaps surprisingly, that students do not make more errors in unsupervised interaction of nonnative speakers than they do in teacher-controlled interaction (Pica & Doughty, 1985 and Porter, 1983).

	T-units with Errors	
	Setting	
	Coop. learn.	Teach.-cent.
+ Error	149	35
	14%	22%
- Error	894	122
	86%	78%

Table 4.

Error Correction

Frequencies +/- Correction

	Setting	
	Coop. learn.	Teach.-cent.
No correction	101	13
	68%	37%
Corr. by self	17	1
	11%	3%
Corr. by other	28	--
	18%	0%
Corr. by teacher	4	21
	3%	60%
Incorr. T-units total	149	35

Table 5.

In the TC setting, 60% of the errors were corrected--almost exclusively by the teacher (see Table 5). Students rarely corrected themselves and never corrected each other. This was to be expected since the interaction is dyadic and does not give room to a third speaker. In addition, other-correction would threaten the teacher's authority and would therefore be unacceptable. In the CL lesson, about 30% of the errors were corrected, mostly by the other students or the speaker him or herself. The self-corrections may indicate that exploratory talk--typical of small groups--is beneficial for language learning (Barnes & Todd, 1977). As can be seen, a higher proportion of errors escaped correction. Still, the 30% percent correction is much higher than in a normal nonnative-native speaker conversation. Chun et al. (1982) found that,

in such a situation, only 8 percent of the errors got corrected, and that the majority of these corrections concerned errors of fact rather than form.

However, the effects of corrections in the TC context are also questionable. When a student is asked a question by the teacher he/she has to answer in a certain pattern. The student cannot stay silent when he/she does not know the answer. Felix (1981) found that in such contexts, students tend to randomly choose an answer from the 'reservoir' of structures that was presented to them. That is, an error results from an attempt to cope with a difficult situation. The effects of correction at such a moment are questionable. Students may not be ready to acquire a certain feature. In addition, they may not profit from such explicit feedback in a face-threatening situation such as a TC context (c.f Allwright, 1975).

In the present study, there may be several reasons why proportionally fewer errors were corrected in the CL setting than in the TC setting. First, there was no real authority on correctness in the group since the teacher only played a marginal role as a counselor. The students might have hesitated to correct each other since they had only their "interlanguage" intuitions with which to monitor the Dutch output (see also Bruton & Samuda, 1980). The indirect form of student corrections also seems to indicate such hesitation. Most corrections are marked with question intonation, are offered as alternatives, or even more implicitly as topic repetitions or restatements (see also Gaskill, 1980). This kind of correction is similar to normal conversational correction. Another explanation of the lower correction rate could be that the students focussed on the content of the interaction rather than on form. Therefore, they may have concentrated on correcting only those errors which they thought to be important for the fulfillment of the task or which hindered the communication.

The number of instances of wrongly corrected T-units in the CL setting was only 9 out of a total of 1043 T-units. Students usually seemed to

have a clear intuition about what was correct or incorrect. They did not correct when they were not sure whether they were right. Students did correct themselves quite often, however, so they were monitoring their own language.

Conclusion

Since this is only an exploratory study done with one small group of adult foreign language learners who were not randomly selected, we are limited in drawing generalizable conclusions. Nonetheless, the data seem to confirm research by others on the effects of small group work settings on interaction and second language learning.

This study has shown which factors of the interaction in CL groups may increase academic achievement in general, and language learning in particular. In the CL setting, students participated more actively and produced an impressive amount of Dutch considering that this was a beginning class. Contrary to expectations, the Jigsaw structure did not completely counteract natural dominance in interaction of more advanced speakers over the less advanced. The stronger students took more turns and used more Dutch than the weaker ones. However, all students--independent of proficiency levels asked questions and thus attempted to break down the input to their comprehension level which is important for the learning process. Such active involvement appeared to result from heterogeneous group structure and the inter-dependence of the students in the teams.

In addition, students proportionally made fewer grammatical errors in the CL setting and sources of correction were more diverse. Students also used a greater variety of vocabulary items and repeated many words more frequently, thus enhancing acquisition. However, the data did not show a higher complexity of student L2 output in the CL

setting. This might have been a result of the way complexity has been operationalized.

Furthermore, the Jigsaw activity appears to be extremely effective for language learning because it gives students the opportunity to acquire forms first in the expert groups and then creates a necessary condition for practice in the teams. In addition, since Jigsaw activities are two-way tasks in which all interactants need to exchange information, they stimulate interaction and, therefore, language learning. With motivated students, CL methods encourage foreign language use and the development of communicative competence in a monolingual classroom more than TC settings do.

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